Terry
Secretary for Environmental Protection

Regional Water Quality Control Board
San Francisco Bay Region

1515 Clay Street, Suite 1400, Oakland, California 94612
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Arnold Schwarzenegger
Governor

CERTIFIED MAIL
No. 70032260000212621796

JUL 2 8 2004
File No. 2159.5046 (RJC)

Mr. Phil Buchanan
General Manager
Bolinas Community Public Utility District
P.O. Box 390
Bolinas, CA 94924

Subject: Transmittal of Final Order R2-2004-0058, Water Reuse Requirements for the Bolinas Community Public Utility District, Bolinas, Marin County

Dear Mr. Buchanan:

Attached is a copy of the Final Order R2-2004-0058 adopted by the Board on July 21. The requirements of this Order are effective starting on July 21, 2004.

If you have any questions, please contact Richard Condit at 510-622-2338.

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment: Order R2-2004-0058

Copy to: Cal. Dept. of Health Services
Drinking Water Program
Santa Rosa Field Operations
50 D Street, Rm 200
Santa Rosa, CA 95404

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER R2-2004-0058

WATER REUSE REQUIREMENTS FOR:

BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. The Bolinas Community Public Utility District (BCPUD) owns and operates a municipal wastewater treatment and disposal plant (WWTP) in Bolinas, which presently collects, treats and disposes of approximately 50,000 gallons per day (GPD) (average dry weather flow) of municipal wastewater from 143 residences and 20 commercial businesses of the downtown portion of the community. The coastal community of Bolinas, California is located on the Pacific Ocean and adjacent to Bolinas Lagoon in west Marin County approximately 15 miles north of San Francisco (Figures 1).

2. The existing BCPUD WWTP is an Integrated Wastewater Pond System. Wastewater from the sewered area is collected and pumped to a series of four oxidation ponds for stabilization and storage, with ultimate disposal through pond evaporation and spray disposal on 47 acres of adjacent grassland. The BCPUD's WWTP is regulated under Board Order No. 88-100.

   The BCPUD submitted a Report of Waste Discharge on December 23, 2003 and Draft Engineering Report for the *Production, Distribution and Use of Recycled Water* (dated October 2003) on December 24, 2003, for the construction and operation of a new tertiary water recycling plant adjacent to the WWTP. The new tertiary recycled water plant (TRWP) will be a "side stream" process to the existing WWTP process to serve the Mesa Park Reclamation Project. The TRWP proposes to produce approximately 8 acre-feet (AF) per year of recycled water for unrestricted reuse on athletic fields in Mesa Park. The TRWP will have a capacity for producing 25,000 GPD. It will initially supply 25,000 GPD to Mesa Park, with the potential for supplying an additional 25,000 GPD to other irrigation customers in the area in the future with some modifications to the plant.

3. The purpose of the proposed recycled water project is to provide a reliable year-round and drought-proof source of recycled water for the athletic field in Mesa Park that meets State of California Water Recycling Criteria (Title 22 Water Recycling Criteria standards for Unrestricted Disinfected Tertiary Recycled Water). An added benefit of the recycled water project is the reduction of the secondary treated wastewater from the WWTP ponds that would be disposed through the existing spray irrigation system on to adjacent grasslands.

PRODUCER, DISTRIBUTOR and USER(s)

4. The BCPUD will produce and distribute recycled water to the designated Recycled Water Use area on Mesa Park. BCPUD will also be responsible for all water quality sampling and analyses, application site inspections and monitoring and required reports to the Board. Mesa Park would have minimal responsibility for the irrigation project other than turning off required water application on site in the event of a problem. Any problems involving the application of recycled water would be reported to BCPUD for further investigation and corrective action.

SURFACE AND GROUNDWATER RESOURCES

5. There are a few watercourses in the vicinity of the project area. The only naturally occurring surface water drainages on the Mesa are Alder Creek and Jack's Creek and a few dry watercourses. These watercourses are not in the immediate vicinity of the project area and would not be subject to surface runoff from the project to Bolinas Lagoon.

   There is no identified drinking water quality aquifer under the project site. A test well drilled on the site to below 200 feet failed to hit any aquifer. The closest drinking well, which serves the adjacent properties to the east, is approximately 1,500 feet to the east, and taps into an aquifer which does not extend under the Mesa Park site. The nearest agricultural wells are ½ miles away. The town's water supply is from Arroyo Honda, which is approximately 4 ½ miles to the northwest within the boundaries of the Pt. Reyes National Seashore.

   Nitrate Impacts on Shallow Groundwaters

   Nitrate loading from on-site wastewater disposal systems can potentially degrade ground water supplies. There is no significant threat of nitrate pollution to any shallow groundwaters in the project area due to the following: 1) wastewater entering the TRWP from the WWTP Pond 3 contains nitrate less than 0.2 mg/l (based on a year's worth of data in 2002); 2) the existing recycled storage tanks will prevent wastewater from infiltrating to shallow groundwater and 3) the landscape vegetation will utilize most of the available nitrate before it reaches any shallow sub-surface water.

WASTEWATER TREATMENT FACILITY

6. The new TRWP system will produce disinfected tertiary recycled water suitable for 'unrestricted' irrigation reuse in accordance with current State of California Water Recycling Criteria (Title 22 regulations and criteria for wastewater reclamation). Recycled water produced by the TRWP will be used for on-site irrigation of athletic fields in Mesa Park. All wastewater generated will be primarily of domestic origin.

   The TRWP will be located adjacent to the BCPUD's existing WWTP. Oxidized wastewater will be drawn from Pond 3 of the WWTP and conveyed to the new TRWP. The process chain will include coagulation, filtration, and disinfection prior to distribution to the reuse area. The new TRWP treatment chain will consist of a dissolved air flotation (DAF) unit to remove algae and other solids from the Pond 3 effluent before it enters the tertiary filtration facilities. A DAF unit consists of an agitation zone and a flotation zone. Coagulates (alum and polymer) will be added prior to the agitation zone as needed. When pressurized air is injected into the unpressurized floatation zone tiny bubbles cause flocculated solids to float to the surface, where they are mechanically skimmed off the water surface and returned to Pond 1A. The resulting coagulated and clarified effluent from the DAF is then chlorinated prior to continuing on to a granular multi-media tertiary filter system. The filter will be backwashed at regular intervals to prevent the filter from clogging. Turbidity will be monitored continuously at two points: upstream from the chemical injection point for the media filters; and immediately downstream from the media filters. The final unit process is disinfection by chlorination. The process schematic is shown in Figure 2.

RECYCLED WATER STORAGE TANKS- MESA PARK

7. Following the DAF and multi-media filtration process the chlorinated recycled water will be pumped into a series of five 3,300-gallon above ground recycled water storage tanks (total of 16,500 gallons), which will have a storage capacity equivalent to one-day average daily flow or one-half-day during daily peak flows. This will provide operational storage to meet peak demands and maintain service during minor treatment plant upsets or during scheduled maintenance periods. The tanks are equipped with low and high-level float switches and alarms.

TRWP SYSTEM RELIABILITY FEATURES

8. To prevent inadequately treated wastewater from entering the Mesa Park storage tanks, the TRWP will be equipped with a shut off valve and a diversion tee after the turbidity meter located downstream from the media filters. An alternative pathway is designed into each unit process to prevent distribution of off-specification water to the athletic fields in the event of a treatment unit failure or system maintenance downtime. This is accomplished by providing information to a Program Logic Control panel that controls the pumps and motorized valves. At the sign of non-compliant water production, water is recycled back to pond 3. This is done by shutting off the Mesa Park storage pump and the motorized valve that feeds the irrigation storage tanks, and turning on the return pump to recycle the water back to Pond 3 for long-term storage and disposal to the existing BCPUD spray disposal area.

WATER RECYCLING TREATMENT PLANT STAFFING

9. The BCPUD is currently staffed with three certified operators. Two operators are certified at a Grade 1 level for wastewater treatment and at a T-2 level for the drinking water treatment plant. The third operator is certified Grade 1 for wastewater treatment and T-1 for drinking water treatment. This latter operator is expected to be certified as a T-2 operator prior to the project start-up. All operators will be trained through a formal operator-training course for operating the proposed TRWP. The T-2 certification will be sufficient for the operation of the new TRWP. The BCPUD will also contract with an outside certified wastewater treatment Grade 3 operator to provide oversight and assistance on an as needed basis. The requirement for the services of an outside certified wastewater treatment Grade 3 operator will be dropped if an in-house operator obtains a Grade 3 certification, either by enlistment or by training/testing (see Provision B.4.).

RECYCLED WATER IRRIGATION DEMAND

10. Wastewater Reuse Through Landscape Irrigation.

In order obtain an estimate of turf irrigation demands at Mesa Park during the dry season a water balance analysis (based on an estimated average annual rainfall of 34.60 inches over a 30-year period) was prepared and included in the TRWP Engineering Report. The total estimated irrigation demand by the designated 3.9 acres of athletic field turf at Mesa Park (a soccer field and two baseball fields) is 9.24 acre-feet per year (AFY) (3.0 million gallons per year). This amounts to @ 21,300 GPD during the irrigation season. Recycled water irrigation at Mesa Park will be conducted between the hours of 10:00 pm and 6:00 am (8 hour irrigation period). The Mesa Park designated athletic field irrigation areas are shown in Figure 3.

BASIN PLAN AND BENEFICIAL USES

11. The Board on June 21, 1995, adopted, in accordance with Section 13240 et. seq. of the California Water Code (CWC), a revised Water Quality Control Plan, San Francisco Bay Basin (Basin Plan). The State Water Resources Control Board and the Office of Administrative Law approved this updated and revised Basin Plan on July 20 and November 13, 1995, respectively. A summary of revisions to regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of State, including surface waters and groundwaters. This Order is in compliance with the Basin Plan.

12. The Basin Plan defines beneficial uses and water quality objectives for waters of the State within the San Francisco Bay Region, including surface and ground waters. No perennial streams or useable drinking water aquifers are specifically identified in the Basin Plan in the project area. The town of Bolinas obtains its drinking water from surface waters far outside the project area (see Finding No. 5). Bolinas Lagoon lies to the east of the project area.

13. The beneficial uses identified in the Basin Plan for Bolinas Lagoon are:

    a. Marine habitat
    b. Water Contact Recreation
    c. Non-contact Water Recreation
    4 Wildlife habitat
    5 Preservation of Rare & Endangered Species
    6 Fish Migration and Spawning

14. The proposed recycled water project(s) authorized under this Order do not pose any significant threat to water quality in surface waters on the Mesa, the Pacific Ocean, Bolinas Lagoon or to shallow groundwater.

REGULATORY ISSUES AND APPLICATIONS

15. **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

    The BCPUD Board of Directors approved a Negative Declaration for the project on June 16, 2004, without mitigations, in accordance with the California Environmental Quality Act (CEQA; Public Resources Code section 21000 et seq.) and a Final Notice of Determination was filed on July 16, 2004. The Negative Declaration finds that the proposed project will not have a significant effect on the environment.

16. Section 13523 of the California Water Code provides that a Board, after consultation with and receipt of recommendations from the State Department of Health Services (DHS), shall prescribe water reclamation requirements for water that is used as recycled water. These water reuse requirements are in conformance with the recently adopted statewide water reclamation criteria. BCPUD submitted a draft engineering report, entitled, *Engineering Report on the Production, Distribution and Use of Recycled Water* [Title 22 Report, prepared by Hydroscience Engineers, Inc., (Hse)], to DHS in September 2003 for review and comment. DHS issued comments on the draft Title 22 Report in September 2003). A revised Title 22 report incorporating DHS's recommendations was issued by HSe in October 2003. A Revised, Final Title 22 Report was issued by HSe in June 2004.

17. The proposed uses of recycled water will maintain and enhance natural resources, and thus this Order is categorically exempt from the provisions of Chapter 3 (CEQA) Division 6, Title 14 of the California Administration Code pursuant to Section 15301 of that Chapter.

18. The project as regulated by this Order will not have a significant adverse impact on water quality of surface waters or groundwaters.

19. The Board has notified the BCPUD and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and opportunity to submit their written views and recommendations.

20. The Board, in a properly noticed public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the BCPUD, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. The treatment, storage, distribution, or reuse of waste shall not create a nuisance or pollution as defined in the California Water Code.

2. The treatment by the TRWP of waste other than domestic waste is prohibited, unless appropriate pretreatment measures satisfactory to the Executive Officer are implemented to meet the requirements of this Order.

3. Discharges of any of untreated or partially treated wastewater from the TRWP's treatment, storage or disposal facilities to adjacent drainage ways, adjacent properties or waters of the State are prohibited.

4. The incidental discharge of tertiary treated recycled water from the use site(s) to waters of the State shall not unreasonably affect present and anticipated beneficial uses of water, and not result in water quality less than that prescribed in water quality control plans or policies.

5. Recycled water shall not be used as a domestic or animal water supply. There shall be no cross-connection between the potable water supply and piping containing reclaimed water. Supplementing recycled water with water used for domestic supply shall not be allowed except through an air-gap separation. Reduced Pressure Principle (RP) backflow prevention devices will be installed on all potable water pipes serving drinking water fountains or buildings in which recycled water will be used for dual plumbing or for fire protection. If BCPUD begins irrigating the landscaping around the fire station, an RP must be installed on the potable water line serving the drinking fountain near the fire station. When in use these assemblies shall be tested at least once per year by the BCPUD in accordance with requirements of Section 7602(a) and 7603(a) of Title 17, CCR.

6. Recycled water shall not be applied to irrigation sites when soils are saturated, when conditions are such that runoff or excessive ponding is likely to occur, during rainfall, or when rainfall is expected to occur within 24 hours.

7. The peak daily flow to the wastewater treatment system shall not exceed 25,000 gpd to the Mesa Park athletic fields. In the event the system treatment capacity is modified at a future date to allow expansion of reuse to other areas, the system's peak daily flow shall not exceed a total of 50,000 gpd in accordance with Provision D.8. The maximum loading rate to the multi-media tertiary filtration system shall be 5 gpm/ft^2 of filter surface area.

B. Recycled Water Quality Specifications

1. The BCPUD shall assure that the recycled water discharged to the Mesa Park storage tanks is at all times an adequately oxidized, disinfected tertiary treated wastewater that meets the following quality limits.

   a. The recycled water shall not exceed the following limits:

Constituent	Unit	Daily Maximum*
1) BOD_5	mg/l	10.0
2) TSS	mg/l	10.0
3) Oil & Grease	mg/l	5.0
4) Nitrate Nitrogen as N	mg/l	5.0

   * Based on the TRWP performance capability with a sufficient safety margin to ensure effluent quality will not violate Title 22 criteria for unrestricted use.

   b. Turbidity: Turbidity is to not exceed: an average of 2.0 NTU within any 24 hour period, 5.0 NTU more than 5% of the time within a 24-hour period, and 10.0 NTU at any time. The turbidity meter shall be designed to initiate the shut off the flow of the effluent water when the turbidity exceeds 5.0 NTU and recycle the water back to Pond 3.

   c. pH: The pH of the discharge shall not exceed 9.0 nor be less than 6.5.

   d. Disinfection – A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and model contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather flow design flow.

   e. Total Coliform Bacteria:

      The treated wastewater shall meet the following limits of bacteriological quality:

      The moving median concentration of total coliform bacteria measure in the disinfected recycled water shall not exceed an Most Probable Number (MPN) of 2.2 per 100 millimeters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 millimeters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 millimeters.

2. Either a chlorine residual in the system or a periodic dose of chlorine sodium hypochlorite following the recycled water storage tanks shall be part of the operational scheme to provide a disinfection residual to control the growth of filamentous organisms and formation of bio-slime in the recycled water pipelines and irrigation systems.

3. The BCPUD shall discontinue the pumping of recycled water to the storage tank during any period when there is reason to believe that the limits specified in B.1.above are not being met. The pumping of recycled water to the irrigation system shall not be resumed until all conditions that cause a violation of one or more of the limits specified in B.1 have been corrected.

4. The BCPUD shall provide the Board documentation that it has:

   a. A qualified and adequately trained on-site wastewater treatment "Operator(s)" to oversee the daily operation of the TRWP and disposal system as defined in Finding 9; and

   b. A contract with an outside certified Grade 3 wastewater treatment operator that can periodically inspect/monitor the TRWP and respond promptly, at the request of the BCPUD, to any emergency or operating problem at the wastewater treatment facility. This requirement will not be necessary if a certified wastewater treatment Grade 3 operator joins the BCPUD staff, either by enlistment or by training/testing.

C. Recycled Water Use Specifications

1. Recycled water will not be provided to any unit intended for human habitation unless the BCPUD obtains DHS approval for installation of dual plumbing systems in accordance with CCR Titles' 22 and 17.

2. Designated Recycled Water Use Areas and recycled water irrigation will be managed and maintained in accordance with sound irrigation practices such that:

   a. Irrigation practices will minimize any reasonable avoidable loss of recycled water from the irrigated areas. Recycled water will not be allowed to escape from the Recycled Water Use Areas by airborne spray or subsurface flow except in minor amounts associated with sound irrigation practices.

   4 Spray, mist or runoff will not enter dwellings or impact designated outdoor eating areas, drinking fountains or food handling facilities.

3. The BCPUD shall adequately post signs informing the public that recycled water is being used for landscape irrigation in the designated Recycled Water Use Area(s). Signs will be posted in areas where the recycled water is accessible to workers and the public. These signs will be at least four inches high by eight inches wide, and include the following wording at a minimum: "RECYCLED WATER – DO NOT DRINK". Each sign shall display an international "Do Not Drink" symbol. Placement of signage is site specific but must provide adequate means of notification to inform workers and the public that recycled water is being used. At a minimum, signs are to be placed at public access points to an irrigated area:

4 The irrigation system to be used for recycled water at Mesa Park is an existing system. The only potable water line near the project site is one going to the Fire Station adjacent to the project site. Any new pipelines shall be installed as follows:

   a. At least 10 feet of horizontal distance between the edges of the pipelines exists between potable water mains and pipelines carrying filtered and disinfected recycled water.

   b. At least 4 feet of horizontal distance existsbetween the edges of the pipelines between potable water mains and the following: disinfected tertiary recycled water mains, pipelines carrying untreated surface water, and storm drains.

   c. At all times, including crossings, any future potable waterline(s) all be installed above non-potable pipelines and so that there is at least one foot vertical clearance between the edges of the pipelines.

5. The landscape irrigation programs shall be managed to prevent surface ponding of water or other conditions, which would provide a breeding area for mosquitoes, or other vectors of health significance, and to prevent the creation of odors, slimes, or unsightly deposits.

D. Provisions

1. The BCPUD shall comply with all sections of this Order immediately upon commencement of reuse.

2. The BCPUD shall maintain a copy of this Order at the TRWP so that it will be available at all times to personnel operating and maintaining waste treatment and reuse facilities. A copy will also be provided to users supplied by and governed by a separate user agreement with the BCPUD.

3. The BCPUD shall maintain in good working order and operate as efficiently as possible any treatment, disposal, and monitoring facility or control system installed by the BCPUD to achieve compliance with these waste discharge requirements.

4. The BCPUD shall comply with the attached self-monitoring program (SMP) (Attachment 4) as adopted by the Board and as may be amended by the Executive Officer. The BCPUD will be responsible for submitting all the necessary SMP reports to the Board.

5. The BCPUD shall designate a "Recycled Water Supervisor" to be responsible for managing the TRWP and the irrigation system and designate backup personnel in the event the Operator is unavailable or cannot respond. Both the Operator and designated backup personnel shall be capable of repairing, maintaining, and operating the recycled water system according to the conditions in this Order, in order to prevent potential public health hazards and shall have sufficient training in wastewater treatment to oversee the daily operation of the recycled water system and to handle minor emergencies. However, if major problems occur and cannot be corrected by the BCPUD within a reasonable time, the BCPUD will be responsible for contacting a certified Grade 3 Operator for system corrections (see Specification: B.4.b.).

6. The BCPUD, if it so chooses, may authorize a User(s), pursuant to separate User agreement with the BCPUD, to operate, repair and maintain recycled water irrigation systems supplied by the project according to the conditions in this Order, in order to prevent potential public health hazards.

7. Inspection, supervision, and employee training shall be provided by the BCPUD to assure proper operation of the TRWP treatment and distribution system and related user facilities and to provide proper worker protection. A complete record of inspections and training shall be maintained by the BCPUD.

8. In the event the TRWP is modified to provide increased capacity to allow expansion of reuse to other areas, BCPUD shall provide a supplemental Engineering Report and Irrigation Plan to Department of Health Services (DHS) and the Executive Officer for review and approval 90 days prior to the projected modified TRWP startup. In addition, BCPUD shall document compliance with CEQA.

9. The addition of any future designated Recycled Water Use Areas is to be reviewed and approved by DHS and the Board 60 days prior to recycled water application. Users supplied by the project will be responsible for compliance with recycled water reuse application use conditions and prohibitions established by this Order and as specified in any separate Producer/User Agreements.

10. The BCPUD shall submit, acceptable to the Executive Officer, an **Operational and Maintenance (O&M) Manual** for the entire recycled wastewater treatment and disposal facilities 60 days prior to startup of the TRWP. A sub-section of the **O&M Manual** shall describe the landscape irrigation system and type of landscaping/flora to be maintained by the Mesa Park irrigation system. This sub-section of the Manual shall be updated, if and when, additional water reuse sites are brought online at a later date. All personnel responsible for operation and maintenance of the wastewater treatment and reuse facilities shall be provided with a copy of the **O&M Manual.**

11. In the event the BCPUD is unable to comply with any of the conditions of the Order due to:

    a. Breakdown of wastewater treatment/transport equipment;
    b. Accidents caused by human error or negligence; or
    c. Other causes such as acts of nature;

    BCPUD shall notify the Board by telephone as soon as the BCPUD or its agents have knowledge of the incident. Written confirmation of this notification shall be submitted within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

12. The BCPUD shall permit the Board or its authorized representative in accordance with California Water Code Section 13267(c):

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Access to and copy of, at reasonable times, any records required to be kept under the terms and conditions of this Order;

    c. Inspection, at reasonable times, of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; or

    d. To photograph, sample or monitor, at reasonable times, for the purpose of assuring compliance with this Order.

13. In the event of any change in control or ownership of the land or the waste discharge facilities presently owned or controlled by the BCPUD, the BCPUD shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to the Board.

14. This Board will review this Order periodically and may revise the requirements as necessary to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in this Board's Basin Plan; or changes in the discharge characteristics.

15. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited to:

    a. Violation of any term or condition contained in this Order;
    b. Obtaining this Order by misrepresentation, or failure to disclose fully all-relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized reuse; or
d. Endangerment to public health or environment that can only be regulated to acceptable levels by Order modifications or termination.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 21, 2004.

Bruce H. Wolfe
Executive Officer

Attachments:
1. Location Map, Figures 1
2. Wastewater Treatment Flow Schematic, Figure 2
3. Mesa Park Recycled Water Use Areas, Figure 3
4. Self-Monitoring Program

File No. 2159.5004
Originator: RJC
Reviewer: SRL

ATTACHMENT 1

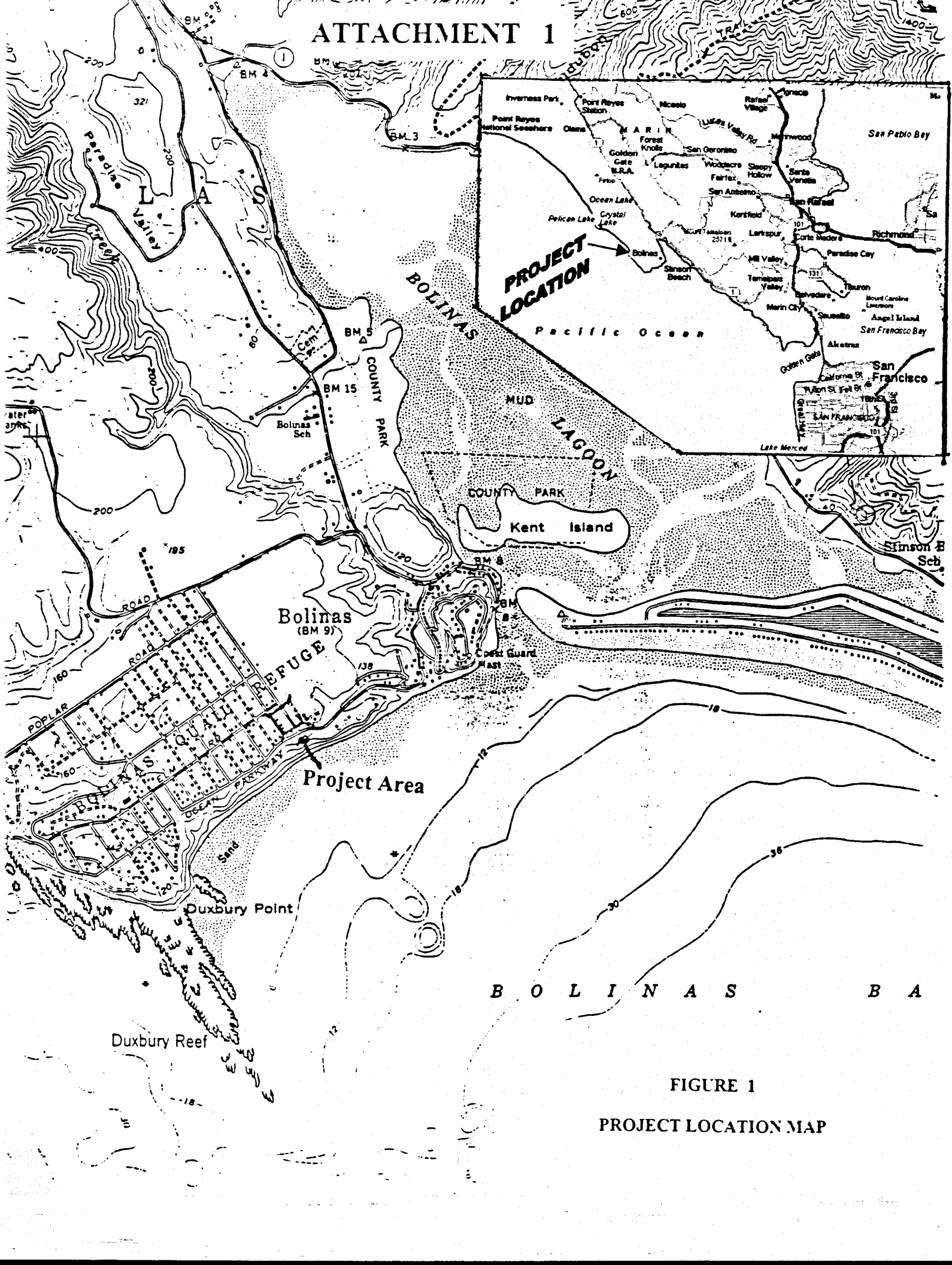
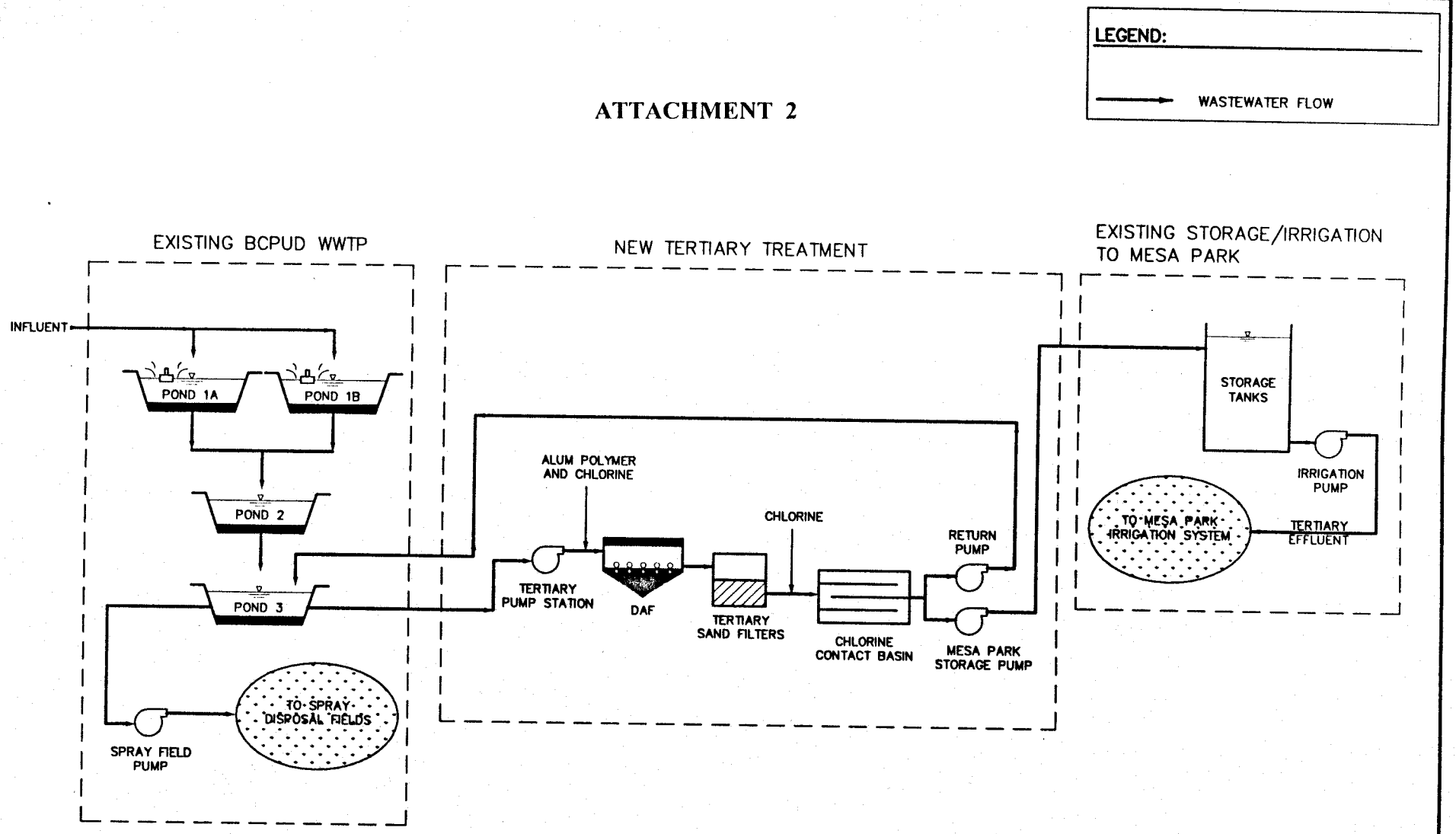


FIGURE 1

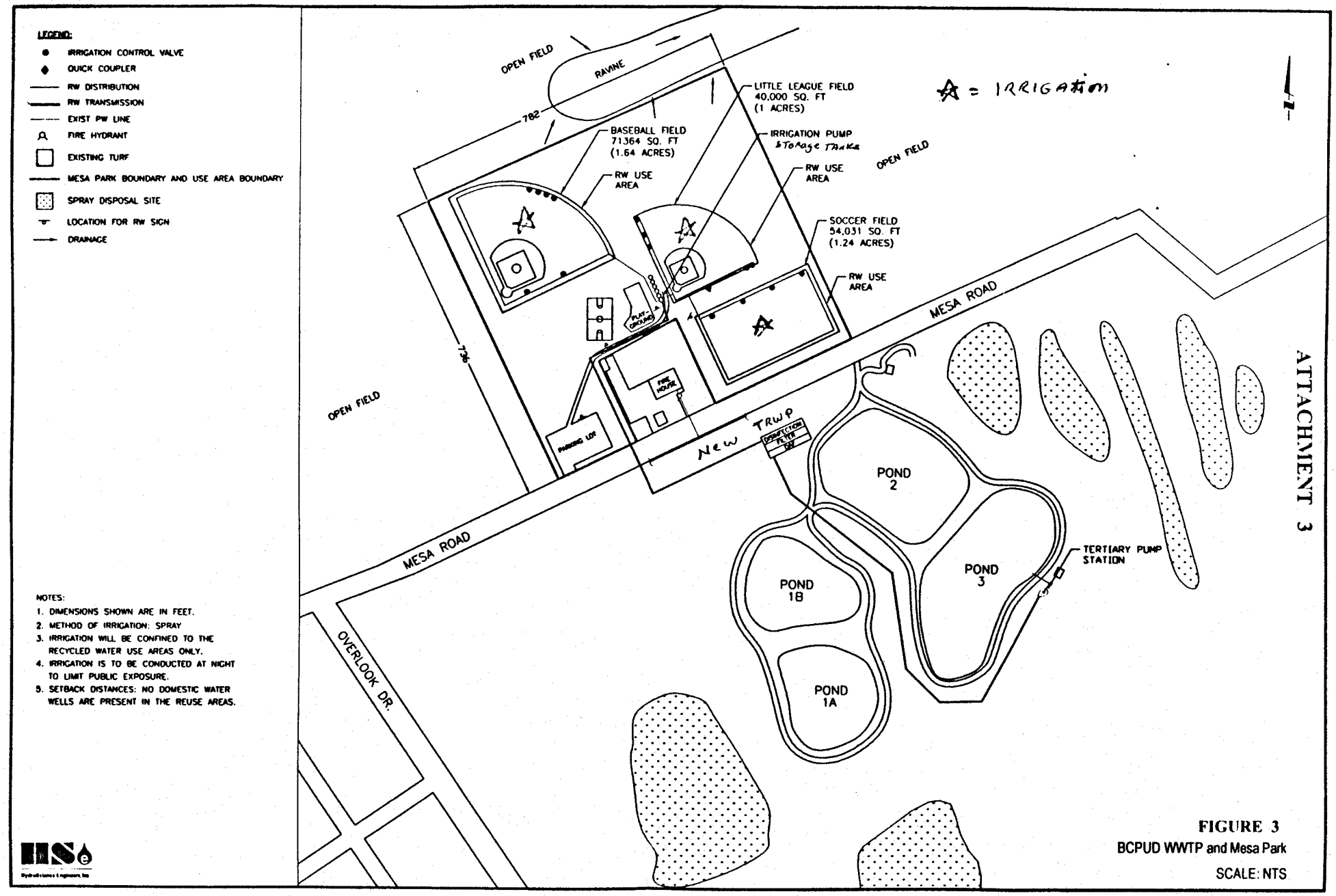
PROJECT LOCATION MAP

ATTACHMENT 2



HydroScience Engineers, Inc.

FIGURE 2
BCPUD TRWP Reclamation Process Flow Diagram


LEGEND:
IRRIGATION CONTROL VALVE
QUICK COUPLER
RW DISTRIBUTION
RW TRANSMISSION
EXIST PW LINE
FIRE HYDRANT
EXISTING TURF
MESA PARK BOUNDARY AND USE AREA BOUNDARY
SPRAY DISPOSAL SITE
LOCATION FOR RW SIGN
DRAINAGE
NOTES:
1. DIMENSIONS SHOWN ARE IN FEET.
2. METHOD OF IRRIGATION: SPRAY
3. IRRIGATION WILL BE CONFINED TO THE RECYCLED WATER USE AREAS ONLY.
4. IRRIGATION IS TO BE CONDUCTED AT NIGHT TO LIMIT PUBLIC EXPOSURE.
5. SETBACK DISTANCES: NO DOMESTIC WATER WELLS ARE PRESENT IN THE REUSE AREAS.
OPEN FIELD
RAVINE
782
BASEBALL FIELD
71364 SQ. FT
(1.64 ACRES)
LITTLE LEAGUE FIELD
40,000 SQ. FT
(1 ACRES)
IRRIGATION PUMP
STORAGE TANKS
RW USE AREA
RW USE AREA
OPEN FIELD
SOCCER FIELD
54,031 SQ. FT
(1.24 ACRES)
RW USE AREA
MESA ROAD
736
OPEN FIELD
PLAY-GROUND
FIRE HOUSE
PARKING LOT
NEW TRWP
DISINFECTION FILTER
POND 2
POND 3
POND 1B
POND 1A
TERTIARY PUMP STATION
MESA ROAD
OVERLOOK DR.
= IRRIGATION
N
ATTACHMENT 3
FIGURE 3
BCPUD WWTP and Mesa Park
SCALE: NTS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

for

Bolinas Community Public Utility District
Marin County, California

ORDER R2-2004-0058

July 21, 2004

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code.

The principle purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with wastewater requirements and prohibitions established by this Board; and

2. To facilitate self-policing by the discharger in the prevention and abatement of pollution arising from wastewater treatment and disposal.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Board.

Wastewater analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DHS), or a laboratory waived by the Executive Officer from obtaining a DHS certification for these analyses.

The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

A. Recycled Water Production and Distribution Areas

Bolinas Community Pubic Utility District (BCPUD) is the producer of recycled water that will be applied to athletic fields on Mesa Park. Recycled water may also be distributed to other sites in the future subject to the Executive Officer's approval. The BCPUD is responsible for the quality of the recycled water released for distribution to designated water reuse sites and for the oversight of operation and maintenance of the recycled water distribution facilities. The BCPUD shall require Users to submit self-monitoring data to BCPUD to be incorporated into the BCPUD's SMP as required by the Producer/User water recycling agreement. The BCPUD is responsible for submittal of the required monitoring reports to the Board.

B. SAMPLES

1. A grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only conditions existing at the time of sample collection. Grab samples are used primarily in determining compliance with daily or instantaneous maximum limits.

2. A flow sample is the accurate measurement of the average flow volume over a given period of time, using a properly calibrated and maintained flow measuring device. Flows calculated from properly maintained pump useage records for accurately calibrated pumps are acceptable.

C. STANDARD OBSERVATIONS

Recycled Water Use Areas

1. Evidence of any recycled water escaping the recycled water use area through airborne spray (show affected area on a sketch).

2. Evidence of any prolonged ponding of recycled water, or of mosquitoes breeding within the use area due to ponding.

3. Observations recorded and reported along irrigation distribution system including but not limited to broken or poorly adjusted spray equipment.

IV. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

NOTE: A sketch showing identification and locations of all stations described below shall accompany the first monitoring report, and subsequent reports when locations are added or changed, or a violation is reported.

4. WASTEWATER TREATMENT SYSTEM

STATION DESCRIPTION

A-1 = At a point prior to the dissolved air flotation unit, and after the discharge point from Pond 3.
A-2 = At a point prior to the media filters, and after the dissolved air flotation unit.
E-1 = At a point prior to the sodium hypochlorite injector, and after the media filters.
E-2 = At a point prior to the chlorine contact chamber, and after the sodium hypochlorite injector.
E-3 = At a point prior to the recycled water wetwell which discharges to the RW storage tanks, and after the chlorine contact chamber.
E-4 = At a point in the irrigation system after the RW storage tanks.

2. **RECYCLED WATER USE AREA**

STATION DESCRIPTION

MP-1 thru MP -'n'	Located at about 200 foot intervals around the perimeter of the (Mesa Park) recycled water use areas (Obs. Intervals adjusted to area being irrigated).

V. SCHEDULE OF SAMPLING, ANALYSES AND OBSERVATIONS

Sampling, analyses and observations shall be conducted according to the schedule given in Table 1 and Table 1 Footnotes (SMP Attachment A).

Initial System Monitoring

To document that the new wastewater treatment and distribution system is working effectively and can maintain long-term treatment reliability, the chemical and coliform sampling and analyses program in Table 1 shall be performed on a more frequent basis until the system establishes a stable and consistent system performance level.

VI. GENERAL OPERATION and MAINTENANCE (O&M)

The **O & M Manual** shall include scheduling of specific tasks to ensure the treatment and distribution systems will consistently and reliably perform according to the design criteria. All monitoring practices identified in the O&M Manual must be implemented.

VII. REPORTS TO BE FILED WITH THE BOARD

A. Self-Monitoring Reports (SMR)

The BCPUD shall submit written reports to the Board for each calendar month. Reports shall be submitted to this Board's office no later than the thirtieth day of the following month. Each SMR shall include the following:

1. Letter of Transmittal, including:

   (a). Discharger's name, address, phone number & contact person;
   (b). The monitoring period being reported, by month and year;
   (c). The name of the responsible Board staff member;
   (d). Tabulations of the results from all required sampling, analyses and observations specified in Table 1 and its Footnotes (SMP Attachment A) by date, sample type and station.
   (e). Discussion of violations found during the monitoring period, including causes and corrective actions taken or planned in order to prevent future violations;
   (f). Discussion of any special events pertinent to maintaining compliance with water reuse requirements, such as equipment repair or replacement, or operational changes;
   (g). Signatory statement by the BCPUD's Recycled Water Supervisor or designated agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete

2. SMP in Electronic Form:

   The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. Most dischargers in Region 2 are currently submitting SMRs electronically in a format approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS). The ERS format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the SMP, then the approved ERS requirements supercede.

B. Report of Permit Violation

In the event the BCPUD violates, or threatens to violate the conditions of water reuse requirements due to:

a. Maintenance work, power failure, or breakdown of wastewater treatment or transport equipment;

b. Accidents caused by human error or negligence; or

c. Other causes such as acts of nature;

The BCPUD shall:

a. Notify the Board office by telephone, as soon as the BCPUD, or agent, has knowledge of the event; and

b. Submit a follow-up written report within two weeks of the event. The written report shall include pertinent information explaining reasons for the non-compliance, actions taken to correct the problem and dates thereof, and actions being taken to prevent the problems from recurring.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing Self-monitoring Program is effective on the date shown below and may be reviewed and amended at any time subsequent to the effective date upon written notice from the Executive Officer or upon written request from the BCPUD.

Bruce H. Wolfe
Executive Officer

Effective Date: July 21, 2004

Attachment A: Table 1

ATTACHMENT A
BCPUD, Marin County
WATER REUSE REQUIREMENTS
Self-Monitoring Program

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES

Sampling Station / Parameter	Units	A-1	A-2	E-1	E-2	E-3	E-4	MPs
Flow Rate	Gal/day	C/X						
BOD_5	Mg/L	G/W				G/W		
Tot. Susp. Solids	Mg/L	G/W				G/W		
Nitrate Nitrogen as N	Mg/L					G/W		
Total Coliform	MPN/100ml					G/D	G/M	
E. Coli	MPN/100ml						G/M	
Turbidity	NTU		C/X	C/X				
pH	SU	C/X				C/X		
Chlorine Residual	Mg/L				C/X	C//X		
CT Value	Min-mg/L					C/X		
Standard Observations								Ob/2W

FOOTNOTES FOR TABLE 1:

Type of Samples

G = grab sample
C= Continuously Measured/Recorded
Ob=Std Observations

Frequency of Sampling

D= Daily, when TRWP is in operation
W = Once each week
2/W = Two days per week
X = Continuously Monitored
M= Once per Month

Type of Stations

A-1 = TRWP Influent (Pond 3 Effluent)
A-2 = DAF effluent (media filter influent)
E-1 = Media filter effluent prior to sodium hypochlorite injector
E-2 = Media filter effluent (chlorine contact chamber influent)
E-3 = Filtered and disinfected effluent from TRWP
E-4 = Recycled water in the distribution system
MPs = Recycled water use area observations